IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

IMAGE PROCESSING TECHNOLOGIES, LLC, *Plaintiff*, v. SAMSUNG ELECTRONICS CO., LTD., and SAMSUNG ELECTRONICS AMERICA, INC., *Defendants*.	§ § § § § § § § § § § §	Case No. 2:20-cv-00050-JRG-RSP

MEMORANDUM ORDER

Before the Court is Defendants Samsung Electronics Co., Ltd.'s and Samsung Electronics America, Inc.'s ("Samsung") Brief Regarding the Basis for Prosecution History Estoppel ("PHE Brief"). Dkt. No. 175. The Court ordered the PHE Brief previously for detail on the basis for the estoppel that Samsung argued during the pretrial conference. Dkt. No. 170. The PHE Brief arises from issues first presented in Samsung's Motion to Establish Pre-Trial Procedure for Resolving Legal Issues Involving Doctrine of Equivalents, Including Prosecution History Estoppel (Dkt. No. 135). Previously, the Court reserved the question of waiver. Dkt. No. 170.

Plaintiff Image Processing Technologies, LLC's ("IPT") doctrine of equivalents ("DOE") argument and Samsung's prosecution history estoppel ("PHE") argument are resolved on the merits without deciding waiver. The Court finds that on the merits PHE bars neither of the two arguments of asserted equivalents. Samsung may, of course, argue that the asserted equivalents are not equivalents, but IPT is not barred from making the argument that they are equivalents.

I. BACKGROUND

During prosecution, Claim 1 of U.S. Patent No. 6,959,293 (the "'293 Patent") was amended to overcome the patent examiner's 35 U.S.C. § 102(b) rejection in view of U.S. Patent No. 5,359,533 ("Ric Ka"). Dkt. No. 175-3 at 19-20, 28. The Applicant also argued that "Ric Ka fails to teach or suggest the limitations as presently recited in claims 1 and 2. For example, Ric Ka fails to teach or suggest two or more histogram calculation units . . . ." *Id.* at 37-38.

Samsung filed a Motion to Establish Pre-Trial Procedure for Resolving Legal Issues Involving Doctrine of Equivalents, Including Prosecution History Estoppel. Dkt. No. 135. Samsung also filed an Unopposed Motion for Expedited Briefing on Samsung's Motion to Establish Pre-Trial Procedure for Determination of Prosecution History Estoppel Issues. Dkt. No. 134. The Court granted the expedited briefing, which waived the reply and sur-reply. Dkt. No. 136.

IPT made express DOE arguments in Dr. Bovik's claim charts and reports. *See generally* Dkt. No. 175-9, 175-10, 175-11. During oral argument to the Court Samsung asserted that "it was not and still is not clear to what extent, if at all, Plaintiffs intend to rely on the Doctrine of Equivalents." It represented that the issue it sought to address was the effect of the patent applicant's distinguishing Claim 1's "requirement to have two histogram calculation units from previous art that relied on a single processer." Dkt. No. 184-3 at 3-4.

Samsung's PHE Brief addresses two PHE arguments that it anticipates from IPT. Dkt. No. 175 at 4. First, "that "a computer processor configured to execute" is the equivalent of the required "hardware" elements, especially the two or more specialized Histogram Calculation Units (HCUs)" ("PHE-1"). *Id.* Second, that "hardware transmitting image frame data, whereby each frame is associated with a time T, and each frame includes pixel data for the frame, with

each pixel corresponding to a position (x,y) or (i,j)" is the equivalent of the element "said digital signal . . . in this space"" ("PHE-2"). *Id.* Samsung's PHE Brief asserts both argument-based and amendment-based PHE.

II. LEGAL STANDARD

a. Prosecution History Estoppel

PHE, when applied to a DOE argument regarding an element, "bar[s] the application of the doctrine of equivalents to that element." *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 33 (1997). As applied, PHE "places reasonable limits on the doctrine of equivalents . . . ." *Id.* at 34. PHE does so by "prevent[ing] a patentee from using the doctrine of equivalents to recapture subject matter surrendered from the literal scope of a claim during prosecution." *Trading Technologies Intern., Inc. v. Open E Cry, LLC*, 728 F.3d 1309, 1322 (Fed. Cir. 2013).

The application of PHE is a matter of law. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 344 F.3d 1359, 1367-68 (Fed. Cir. 2003). PHE comes in two forms: (1) amendment-based estoppel and (2) argument-based estoppel. *Conoco, Inc. v. Energy & Environmental Intern., L.C.*, 460 F.3d 1349, 1363-64 (Fed. Cir. 2006).

b. Amendment-Based Estoppel

Once the alleged infringer shows that a claim was amended, there is a presumption that the amendment is "a general disclaimer of the territory between the original claim and the amended claim." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 740 (2002). The patent owner then bears "the burden of showing that the amendment does not surrender the particular equivalent in question." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 740 (2002).

To meet this burden, "[t]he patentee must show that at the time of the amendment one skilled in the art could not reasonably be expected to have drafted a claim that would have literally encompassed the alleged equivalent." *Festo Corp.* enumerated three ways a patentee may overcome the presumption: (1) "[t]he equivalent may have been unforeseeable at the time of the application;" (2) "the rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question;" and (3) "or there may be some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question." *Id.* at 740-741.

c. Argument-Based Estoppel

Arguments made during the prosecution of a patent application are given the same weight as claim amendments. *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 979 (Fed. Cir. 1999). Argument-based history estoppel applies when there is a "clear and unmistakable surrender of subject matter" in the prosecution history. *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1363 (Fed. Cir. 2003), quoting *Litton Sys., Inc. v. Honeywell, Inc.*, 140 F.3d 1449, 1458 (Fed. Cir. 1998).

III. ANALYSIS

a. Amendment-Based Estoppel

Once the alleged infringer shows that a claim was amended, there is a presumption that the amendment is "a general disclaimer of the territory between the original claim and the amended claim." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 740 (2002). Samsung requests the Court to find that IPT is barred by PHE from asserting (1) PHE-1 and (2) PHE-2. Dkt. No. 175 at 4.

The Court finds that, in both cases, PHE does not apply. While there is a presumption that the amendment is a general disclaimer of the territory between the original claim and the amended claim under *Festo*, these limitations do not implicate territory between the original claim and the amended claim. There is no presumption to rebut. Below is a comparison of the original Claim 1 and amended Claim 1.

Original Claim 1	**Amended Claim 1** (new material underlined, deleted material in strikethrough)
1. A visual perception processor, comprising: a data bus; a time coincidences bus; and two or more histogram calculation units that receive the data DATA(A), DATA(B),. . . DATA(E) via the data bus and supply classification information to the single time coincidences bus.	1. (Currently Amended) A visual perception processor for automatically detecting an event occurring in a multidimensional space (i,j) evolving over time with respect to at least one digitized parameter in the form of a digital signal on a data bus, said digital signal being in the form of a succession a_{ijT} of binary numbers associated with synchronization signals enabling to define a given instant (T) of the multidimensional space and the position (i,j) in this space, the visual perception processor comprising: [[a]] the data bus; a control unit a time coincidences bus carrying at least a time coincidence signal; and at least two ~~or more~~ histogram calculation units for the treatment of the at least one parameter, ~~that receive the data DATA(A), DATA(B), ... DATA(E) via the data bus and supply classification information to the single time coincidences bus~~ the histogram calculation units being configured to form a histogram representative of the parameter as a function of a validation signal and to determine by classification a binary classification signal resulting from a comparison of the parameter and a selection criterion C, wherein the classification signal is sent to the time coincidences bus, and wherein the validation signal is produced from time coincidences signals from the time coincidence bus so that the calculation of the histogram depends on the classification signals carried by the time coincidence bus.

Dkt. No. 175 at 5. Regarding PHE-1, the presence of the structural elements are the only parts of Claim 1 that were not amended. The amendment does implicate territory between the

original claim and the amended claim, but that territory regards functionality and configuration. For example, "a time coincidences bus not carrying at least a time coincidence signal" is presumed disclaimed by the addition of the functional limitation "carrying at least a time coincidence signal," but "a time coincidences bus" otherwise is not presumed disclaimed as it is not part of the territory between the original claim and the amended claim. The data bus is in both the original claim and the amended claim. The time coincidences bus is in both the original claim and the amended claim. The at least two histogram calculation units are in both the original claim and the amended claim, although the syntax has changed from "two or more" to "at least two."

None of the structural elements were removed. The only new structural element introduced by amendment is the control unit. While this may create the presumption of a disclaimer of the *absence* of a control unit, there is no territory between the original claim and amended claim that indicates a disclaimer of the argument that "a computer processor configured to execute" is the equivalent of the required "hardware" elements, especially the two or more, specialized HCUs.

b. Argument-Based Estoppel

Argument-based history estoppel applies when there is a "clear and unmistakable surrender of subject matter" in the prosecution history. *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1363 (Fed. Cir. 2003), quoting *Litton Sys., Inc. v. Honeywell, Inc.*, 140 F.3d 1449, 1458 (Fed. Cir. 1998). Samsung's PHE Brief raises two instances where it asserts argument-based estoppel applies: (1) IPT's distinction in IPR No. 2017-00336 of Claim 1 from the reference Robert B. Rogers, "Real-Time Video Filtering With Bit-Slice Microprogrammable Processors," Ph.D. Dissertation, New Mexico State University (1978) ("Rogers") for allegedly

not including two HCUs with specialized hardware, and (2) IPT's arguments in an *ex parte* reexamination where Samsung asserts that IPT asserted that Claim 1 required hardware consisting of two or more specialized HCUs that interacted with each other in specific ways via specific signals and busses. Dkt. No. 175 at 13.

Regarding the Rogers reference, IPT argued:

> Rogers does not disclose "the histogram calculation units being configured to form a histogram representative of the parameter." The Petitioner does not rely on Gilbert for this element. See Petition at 56.
>
> Petitioner relies on Rogers' disclosure of "three histograms of pixel intensity [] formed for each of two tracking windows" (Petition at 56), but the Petition's argument is overly generic and fails to make the required showing. The Petition fails to identify at least two histogram calculation units, as required by the claim. Such units have various requirements, including the coincidence of time before a histogram is updated. The only pixel intensity histograms cited by Petitioner are independent of one another, and are not linked by a time coincidence, as an example. Tellingly, Petitioner does not address how the histogram units operate or how histograms are calculated in any detail, such that the Petition fails to even mention time coincidences signals, the time coincidences bus, or how a binary classification signal is determined. See Petition at 57. Therefore, based on this lack of explanation,

> Petitioner does not cite any teaching of Rogers suggesting at least two histogram calculation units. See Petition at 53- 58.

Dkt. No. 175-6 at 30-31. This argument indicates the necessity of at least two histogram calculation units, structures that are in both original Claim 1 and amended Claim 1, and functionality of the histogram units with respect to time coincidences signals, the time coincidence bus, and determination of a binary classification signal. This argument does not, however, indicate with clear and unmistakable surrender of subject matter that the histogram calculation units must be hardware.

Regarding the *ex parte* reexamination, IPT argued that "to form a histogram representative of the parameter as a function of a validation signal:"

> **requires** that each histogram calculation unit (HCU) forms a histogram representative of the parameter as a function of a validation signal. Thus, in accordance with [the limitation], the figure below illustrates a first HCU (HCU1) forming a first histogram (H1) representative of the parameter (e.g., DATA(A)) as a function of a first validation signal (V1). Likewise, the figure also illustrates a second HCU (HCU2) forming a second histogram (H2) representative of the parameter (e.g., DATA(A))) as a function of a second validation signal (V2).[1]

Dkt. No. 175-7 at 16. Arguing that the limitation requires "that each histogram calculation unit (HCU) forms a histogram representative of the parameter as a function of a validation signal" is strong language. This may be sufficient to be a clear and unmistakable

[1] Emphasis added in bold.

surrender of subject matter regarding the argument that each HCU must form a histogram representative of the parameter as a function of a validation signal.

However, while the diagram of the HCU is of a hardware embodiment, and suggests that the HCU must be hardware, it is certainly not a clear and unmistakable surrender that "a computer processor configured to execute" may be the equivalent of the required "hardware" elements, especially the two or more, specialized HCUs. Furthermore, while the argument discusses illustrations of histograms as a function of signals, it does not clearly and unmistakably surrender that "hardware transmitting image frame data, whereby each frame is associated with a time T, and each frame includes pixel data for the frame, with each pixel corresponding to a position (x,y) or (i,j)" may be the equivalent of the element "said digital signal . . . in this space."

IV. CONCLUSION

In sum, the Court finds that the PHE arguments made in Samsung's PHE Brief are unavailing. Accordingly, the Court does not bar IPT from asserting either the argument (1) that "a computer processor configured to execute" is the equivalent of the required "hardware" elements, especially the two or more, specialized Histogram Calculation Units (HCUs) or (2) that "hardware transmitting image frame data, whereby each frame is associated with a time T, and each frame includes pixel data for the frame, with each pixel corresponding to a position (x,y) or (i, j)" is the equivalent of the element "said digital signal . . . in this space."

SIGNED this 26th day of June, 2020.

ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE